

## **REMARKS**

Claims 1-12 were presented for examination and were pending in this application. In the above-referenced Office Action, claims 1-12 were rejected. Applicants now request reconsideration and allowance of claims 1-12.

The Examiner rejects claims 1-12 under 35 U.S.C. § 103(a) as being unpatentable over Specware 2.0.3 (“Specware”) in view of the article “Colimits in Memory...” (“Healy”). Applicants traverse this rejection. Claims 1 and 12 will be discussed together below. Claims 2-11 are dependent on claim 1 and are patentably distinguished for at least the reasons discussed below.

The Examiner admits that Specware fails to disclose at least computing the co-limits of the hereditary diagram of diagrams to compose large software modules while preserving the decomposition of the involved components. This is correct. Early versions of Specware (such as version 2.0.3) did not include the notion of hereditary diagram (i.e., diagram of diagrams).

Healy completely fails to remedy this deficiency. First, Healy relates to a completely different area of technology than does applicants’ invention (neural nets vs. software engineering) Second, Healy does not disclose what the Examiner says it does. The Examiner points to mention of “co-limits” in Healy and states that Healy discloses diagrams of diagrams. This is incorrect. While Healy discloses co-limits (as does Specware), Healy completely fails to disclose a combination including at least “computing the colimits of the hereditary diagram of diagrams to compose large software modules while preserving the decomposition of the involved components.” The portion of Healy pointed to by the Examiner is merely a defining diagram for a co-limit. In other words, Fig. 3 of Healy merely shows what a co-limit is, it does not show a diagram of diagrams or their co-limit.

The problem solved by applicants' invention is that "co-limits of specifications" cannot be calculated. Instead, applicants' invention uses diagrams of diagrams. Combining and re-use (cited by the Examiner) is not the same as diagrams of diagrams. In order to show a diagram of diagrams, Healy would have to define a morphism of diagrams and he does not do so.

Therefore, neither Specware nor Healy discloses each and every element of the invention and claims 1-12 patentably distinguish over the cited references for at least this reason.

### Conclusion

Applicants respectfully submit that claims 1-12, as presented herein, are patentably distinguishable over the cited reference (including references cited, but not applied). Therefore, Applicants request reconsideration and allowance of these claims.

In addition, Applicants respectfully invite the Examiner to contact Applicants' representative at the number provided below if Examiner believes it will help expedite furtherance of this application.

RESPECTFULLY SUBMITTED,  
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